

Nucleotide and amino acid sequences (see SEQ ID NO: 1 and 2) of a primate,
e.g., human, IL-7R α ; predicted signal cleavage site indicated.

ctctctctatctctctca	ga	atg	aca	att	cta	ggc	aca	act	ttt	ggc	atg	52				
Met	Thr	Ile	Leu	Gly	Thr	Thr	Phe	Gly								
-20																
gtt	tct	tta	ctt	caa	gtc	gtt	tct	gga	gaa	agt	ggc	tat	gct	caa	100	
Val	Phe	Ser	Leu	Leu	Gln	Val	Val	Gly	Glu	Ser	Gly	Tyr	Tyr	Ala	Gln	
-10																
aat	ggg	gac	ttg	gaa	aat	gca	gaa	ctg	gat	gac	tac	tca	ttc	tca	tgc	148
Asn	Gly	Asp	Leu	Glu	Asp	Ala	Glu	Leu	Asp	Asp	Tyr	Ser	Phe	Ser	Cys	
10																
tat	agc	cag	ttg	gaa	aat	gga	tcg	cag	cat	tca	ctg	acc	tgt	gct	196	
Tyr	Ser	Gln	Leu	Glu	Val	Asn	Gly	Ser	Gln	His	Ser	Leu	Thr	Cys	Ala	
25																
ttt	gag	gac	cca	gat	gtc	aac	acc	aat	ctg	gaa	ttt	gaa	ata	tgt	244	
Phe	Glu	Asp	Pro	Asp	Val	Asn	Thr	Asn	Leu	Glu	Phe	Glu	Ile	Cys		
40																
ggg	gcc	ctc	gtg	gag	gta	aag	tgc	ctg	aat	ttc	agg	aaa	cta	caa	gag	292
Gly	Ala	Leu	Val	Glu	Val	Lys	Cys	Leu	Asn	Phe	Arg	Lys	Leu	Gln	Glu	
55																
60																
65																
70																

FIG. 1A

2/35

ata	tat	ttc	atc	gag	aca	aag	aaa	tcc	tta	ctg	att	gga	aag	agg	aat	340
Ile	Tyr	Phe	Ile	Glu	Thr	Lys	Lys	Phe	Leu	Leu	Ile	Gly	Lys	Ser	Asn	
																85
																75
ata	tgt	gtg	aag	gtt	gga	gaa	aag	agt	cta	acc	tgc	aaa	aaa	ata	gac	388
Ile	Cys	Val	Lys	Val	Gly	Glu	Lys	Ser	Leu	Thr	Cys	Lys	Lys	Ile	Asp	
																95
																100
cta	acc	act	ata	gtt	aaa	cct	gag	gct	cct	ttt	gac	ctg	agt	gtc	atc	436
Leu	Thr	Thr	Ile	Ile	Val	Pro	Glu	Ala	Pro	Phe	Asp	Leu	Ser	Val	Ile	
																105
																110
tat	cgg	gaa	ggg	gcc	aat	gac	ttt	gtg	gtg	aca	ttt	aat	aca	tca	cac	484
Tyr	Arg	Glu	Gly	Ala	Asn	Asn	Phe	Val	Val	Thr	Phe	Asn	Thr	Ser	His	
																120
																125
ttg	caa	aag	aag	tat	gtt	aaa	gtt	tta	atg	cat	gat	gtt	gtc	tac	cgc	532
Leu	Gln	Lys	Lys	Tyr	Val	Lys	Val	Met	His	Asp	Val	Ala	Tyr	Arg		
																135
																140
cag	gaa	aag	gat	gaa	aac	aaa	tgg	acg	cat	gtg	aat	tta	tcc	agc	aca	580
Gln	Glu	Lys	Lys	Glu	Asn	Lys	Trp	Thr	His	Val	Asn	Leu	Ser	Ser	Thr	
																155
																160
																165

FIG. 1B

3/35

aag	ctg	aca	ctc	ctg	cag	aga	aag	ctc	caa	ccg	gca	gca	atg	tat	gag	628
Lys	Leu	Thr	Leu	Gln	Arg	Lys	Leu	Gln	Pro	Ala	Ala	Met	Tyr	Glu		
																175
att	aaa	gtt	cga	tcc	atc	cct	gat	cac	tat	ttt	aaa	ggc	tcc	tgg	agt	676
Ile	Lys	Val	Arg	Ser	Ile	Pro	Asp	His	Tyr	Phe	Lys	Gly	Phe	Trp	Ser	
																185
gaa	tgg	agt	cca	agt	tat	tac	ttc	aga	act	cca	gag	atc	aat	aat	agg	724
Glu	Trp	Ser	Pro	Ser	Tyr	Tyr	Phe	Arg	Thr	Pro	Glu	Ile	Asn	Asn	Ser	
																200
tca	ggg	gag	atg	gat	cct	atc	tta	cta	acc	atc	agc	att	tta	agt	ttt	772
Ser	Gly	Glu	Met	Asp	Pro	Ile	Leu	Leu	Thr	Ile	Ser	Ile	Leu	Ser	Phe	
																215
ttc	tct	gtc	gtc	ttg	gtc	atc	ttg	gcc	tgt	gtg	tta	tgg	aaa	aaa	aaa	820
Phe	Ser	Val	Ala	Leu	Leu	Val	Ile	Leu	Ala	Cys	Val	Leu	Trp	Lys	Lys	
																235
agg	att	aag	cct	atc	gtt	ttg	ccc	agt	ctc	ccc	gat	cat	aag	aag	act	868
Arg	Ile	Lys	Pro	Ile	Val	Trp	Pro	Ser	Leu	Pro	Asp	His	Lys	Lys	Thr	
																250
ctg	gaa	cat	ctt	tgt	aag	aaa	cca	aga	aaa	aat	tta	aat	gtg	agt	ttc	916
Leu	Glu	His	Leu	Cys	Lys	Lys	Pro	Arg	Lys	Asn	Leu	Asn	Val	Ser	Phe	
																265
																270
																275

FIG. 1C

4/35

aat	cct	gaa	agt	tcc	ctg	gac	tgc	cag	att	cat	agg	gtg	gat	gac	att	964
Asn	Pro	Glu	Ser	Phe	Leu	Asp	Cys	Gln	Ile	His	Arg	Vai	Asp	Asp	Ile	
280																290
caa	gct	aga	gat	gaa	gtg	gaa	ggt	ttt	ctg	caa	gat	acg	ttt	cct	cag	1012
Gln	Ala	Arg	Asp	Glu	Val	Glu	Gly	Phe	Leu	Gln	Asp	Thr	Phe	Pro	Gln	
295																310
caa	cta	gaa	gaa	tct	gag	aag	cag	agg	ctt	gga	ggg	gat	gtg	cag	agc	1060
Gln	Leu	Glu	Glu	Ser	Glu	Lys	Gln	Arg	Leu	Gly	Gly	Asp	Val	Gln	Ser	
																325
ccc	aac	tgc	cca	tct	gag	gat	gta	gtc	gtc	act	cca	gaa	agc	ttt	gga	1108
Pro	Asn	Cys	Pro	Ser	Glu	Asp	Val	Val	Val	Thr	Pro	Glu	Ser	Phe	Gly	
																330
aga	gat	tca	tcc	ctc	aca	tgc	ctg	gct	ggg	aat	gtc	agt	gca	tgt	gac	1156
Arg	Asp	Ser	Ser	Ile	Thr	Cys	Leu	Ala	Gly	Asn	Val	Ser	Ala	Cys	Asp	
																345
gcc	cct	att	ctc	tcc	tct	tcg	agg	tcc	cta	gac	tgc	agg	agt	ggc	1204	
Ala	Pro	Ile	Leu	Ser	Ser	Ser	Arg	Ser	Leu	Asp	Cys	Arg	Glu	Ser	Gly	
																360
aag	aat	ggg	cct	cat	gtg	tac	cag	gac	ctc	ctg	ctt	agc	ctt	ggg	act	1252
Lys	Asn	Gly	Pro	His	Val	Tyr	Gln	Asp	Leu	Leu	Ser	Leu	Gly	Thr		
																375
																380
																390

FIG. 1D

5/35

aca aac agc acg ctg ccc cct cca ttt tct ctc caa tct gga atc ctg	1300
Thr Asn Ser Thr Leu Pro Pro Phe Ser Gly Ile Leu	
395	400
405	
aca ttg aac cca gtt gct cag ggt cag ccc att ctt act tcc ctg gga	1348
Thr Leu Asn Pro Val Ala Gln Gly Gln Pro Ile Leu Thr Ser Leu Gly	
410	415
420	
tca aat caa gaa gca tat gtc acc atg tcc agc ttc tac caa aac	1396
Ser Asn Gln Glu Glu Ala Tyr Val Thr Met Ser Phe Tyr Gln Asn	
425	430
435	
cag tgaagtgtaa gaaaccaga ctgaacctac cgtgaggcac aaagatgatt	1449
Gln	
taaaaaggaa gtcttagagt ccttagtctcc ctcacagcac agagaagaca aaattagcaa	1509
aaccccaacta cacagtctgc aagattctga aacattgttt tgaccactct tcctgaggttc	1569
agtggcactc aacatgagtc aagaggcatcc tgcttctacc atgtggattt ggtcacaaagg	1629
tttaaggta cccaatgatt cagttatt	1658

FIG. 1E

Nucleotide and amino acid sequences (see SEQ ID NO: 3 and 4) of a primate,
e.g., human, R_δ2; predicted signal cleavage site indicated.

cgccacgggc atg ggg cgg ctg gtt ctg ctg tgg gga gct gcc gtc ttt 51			
Met Gly Arg Leu Val Leu Leu Trp Gly Ala Ala Val Phe			
-20	-15	-10	
ctg ctg gga ggc tgg atg gct ttg ggg caa gga gca gaa gga 99			
Leu Leu Gly Gly Trp Met Ala Leu Gly Gln Gly Ala Ala Glu Gly			
-5	-1	5	
gta cag att gag atc atc tac ttc aat tta gaa acc gtg cag gta 147			
Val Gln Ile Gln Ile Tyr Phe Asn Leu Glu Thr Val Gln Val Thr			
10	15	20	
tgg aat gcc agc aaa tac tcc agg acc aac ctg act ttc cac tac aga 195			
Trp Asn Ala Ser Lys Tyr Ser Arg Thr Asn Leu Thr Phe His Tyr Arg			
25	30	35	
ttc aac ggt gat gag gcc tat gac cag tgc acc aac tac ctt ctc cag 243			
Phe Asn Gly Asp Glu Ala Tyr Asp Gln Cys Thr Asn Tyr Leu Leu Gln			
40	45	50	55
gaa ggt cac act tcg ggg tgc ctc cta gac gca gag cag cga gac gac 291			
Glu Gly His Thr Ser Gly Cys Leu Leu Asp Ala Glu Gln Arg Asp Asp			
60	65	70	

6/35

FIG. 2A

7/35

att	ctc	tat	tcc	atc	agg	aat	ggg	acg	cac	ccc	gtt	ttc	acc	gca	339	
Ile	Leu	Tyr	Phe	Ser	Ile	Arg	Asn	Gly	Thr	His	Pro	Val	Phe	Thr	Ala	85
																75
agt	cgc	tgg	atg	gtt	tat	tac	ctg	aaa	ccc	agt	tcc	ccg	aag	cac	gtg	387
Ser	Arg	Trp	Met	Val	Tyr	Tyr	Leu	Lys	Pro	Ser	Ser	Pro	Lys	His	Val	90
																95
aga	ttt	tcg	tgg	cat	cag	gat	gca	gtg	acg	gtg	acg	tgt	tct	gac	ctg	435
Arg	Phe	Ser	Trp	His	Gln	Asp	Ala	Val	Thr	Val	Thr	Cys	Ser	Asp	Leu	105
																110
tcc	tac	ggg	gat	ctc	ctc	tat	gag	gtt	cag	tac	cggt	agc	ccc	ttc	gac	483
Ser	Tyr	Gly	Asp	Leu	Leu	Tyr	Glu	Val	Gln	Tyr	Arg	Ser	Pro	Phe	Asp	120
																125
acc	gag	tgg	cag	tcc	aaa	cag	gaa	aat	acc	tgc	aac	gtc	acc	ata	gaa	531
Thr	Glu	Trp	Gln	Ser	Lys	Gln	Glu	Asn	Thr	Cys	Asn	Val	Thr	Ile	Glu	120
																140
ggc	ttg	gtt	gcc	gag	aag	tgt	tac	tct	ttc	tgg	gtc	agg	gtg	aag	gtc	579
Gly	Leu	Asp	Ala	Glu	Lys	Cys	Tyr	Ser	Phe	Trp	Val	Arg	Val	Lys	Ala	155
																160
atg	gag	gat	gtt	tat	ggg	cca	gac	aca	tac	cca	agc	gac	tgg	tca	gag	627
Met	Glu	Asp	Val	Tyr	Gly	Pro	Asp	Thr	Tyr	Pro	Ser	Asp	Trp	Ser	Glu	170
																175
																180

FIG. 2B

8/35

gtg	aca	tgc	tgg	cag	aga	ggc	gag	att	cgg	gat	gcc	tgt	gca	gag	aca	675
Val	Thr	Cys	Trp	Gln	Arg	Gly	Glu	Ile	Arg	Asp	Ala	Cys	Ala	Glu	Thr	
185																195
cca	acg	cct	ccc	aaa	cca	aag	ctg	tcc	aaa	ttt	att	tta	att	tcc	agc	723
Pro	Thr	Pro	Pro	Lys	Pro	Lys	Phe	Leu	Ser	Lys	Phe	Ile	Leu	Ile	Ser	
200																215
ctg	gcc	atc	ctt	ctg	atg	gtg	tct	ctc	ctc	ctt	ctg	tct	tta	tgg	aaa	771
Leu	Ala	Ile	Ile	Leu	Leu	Met	Val	Ser	Leu	Leu	Leu	Leu	Ser	Leu	Trp	
220																225
tta	tgg	aga	gtg	aag	aag	ttt	ctc	att	ccc	agc	gtg	cca	gac	ccg	aaa	819
Leu	Trp	Arg	Val	Lys	Lys	Phe	Leu	Ile	Pro	Ser	Val	Pro	Asp	Pro	Lys	
235																240
tcc	atc	ttc	ccc	ggg	ctc	ttt	gag	ata	cac	caa	ggg	aac	ttc	cag	gag	867
Ser	Ile	Phe	Pro	Gly	Leu	Phe	Glu	Ile	His	Gln	Gly	Asn	Phe	Gln	Glu	
250																255
tgg	atc	aca	gac	acc	cag	aac	gtg	gcc	cac	ctc	cac	aag	atg	gca	gtt	915
Trp	Ile	Thr	Asp	Thr	Gln	Asn	Val	Ala	His	Leu	His	Lys	Met	Ala	Gly	
265																270
gca	gag	caa	gaa	agt	ggc	ccc	gag	gag	ccc	ctg	gtc	cag	ttg	gcc	963	
Ala	Glu	Gln	Glu	Ser	Gly	Pro	Glu	Glu	Pro	Leu	Val	Val	Gln	Leu	Ala	
280																295

FIG. 2C

9/35

aag	act	gaa	gcc	gag	tct	ccc	agg	atg	ctg	gac	cca	cag	acc	gag	gag	1011
Lys	Thr	Glu	Ala	Glu	Ser	Pro	Arg	Met	Leu	Asp	Pro	Gln	Thr	Glu	Glu	310
aaa	gag	gcc	tct	ggg	gga	tcc	ctc	cag	ctt	ccc	cac	cag	ccc	ctc	caa	1059
Lys	Glu	Ala	Ser	Gly	Gly	Ser	Leu	Gln	Leu	Pro	His	Gln	Pro	Leu	Gln	325
ggc	ggg	gtt	gtg	gtc	aca	atc	ggg	ggc	ttc	acc	ttt	gtg	atg	aat	gac	1107
Gly	Gly	Asp	Val	Val	Thr	Ile	Gly	Gly	Phe	Thr	Phe	Val	Met	Asn	Asp	340
cgc	tcc	tac	gtg	gtg	tgatggacac	accactgtca	aagtcaacgt									1155
Arg	Ser	Tyr	Val	Ala	Leu											345

FIG. 2D

10/35

caggatccac gttgacattt aaagacagag gggactgtcc cggggactcc acaccacat 1215
ggatggaaag tctccacgcc aatgtatggta ggacttaggg actctgaaga cccaggcctca 1275
ccgcctaattg cgcccaactgc cctgttaact ttccccacata tgagtctctg tgttcaaaagg 1335
cttgatggca gatggggagcc aattgtctcca ggagattac tcccgattcc ttttcgtgcc 1395
tgaacgttgt cacataaacc ccaaggcagg acgtccaaaa tgctgtaaaa ccatcttccc 1455
actctgtgag tccccaggatc cgtccatgtat cctgttccat agcattggat tctcgaaagg 1515
tttttgtat gtttgagac tccaaaccac ctctaccctt ac 1557

FIG. 2E

MFPFALLYVLSVSFRKIFILQLVGLVLTYD 30
 FTNCDFEIKAAYLSTISKDLITYMSGTKS 60
 TEFNNTVCSNRPHCILTEIQSLTENPTAGC 90
 ASLAKEMFAMKTKAAIAIWCPGYSETQINA 120
 TQAMKKRKRKVTTNKCLEQVSQQLQGLWRR 150
 FNRPLLKQQ

FIG. 3A

1 agtgtgtaaac tgggtggaa tgggtgtcca cgtatgttcc cttttgcctt
 51 actatatgtt ctgtcaagg ttacaacttac gacttcacca aatcttcatttacaacttg
 101 tagggctggt gttaacttac atctcagttac tatttctaaa gacctgatttactgtgactt tgagaaggatt
 151 aaaggcaaggct attcaggatc tcaacaacac cgtctttgt agcaatcgccatataatgag
 201 tggaccaaa agtaccggatc cttcaatcc cttcaatcc caccggccgc
 251 cacattgcct tactgaaatc cagaggctaa cttcaatcc caccggccgc
 301 tgcgcgtcgc tcgccaaaga aatgttcgcc atgaaaacta aggttgcctt
 351 agctatctgg tgcccaggct attcggaaac tcagataaat gctactcagg
 401 caatgaagaa gaggagaaaa agaaaggatca caaccaataa atgtctggaa
 451 caagtgtcac attacaagg attgtggcgt cgcttcaatc gacccttact
 501 gaaacaacag taaaccatc tattatgtt catatttcac agcaccaaaa ta

FIG. 3B

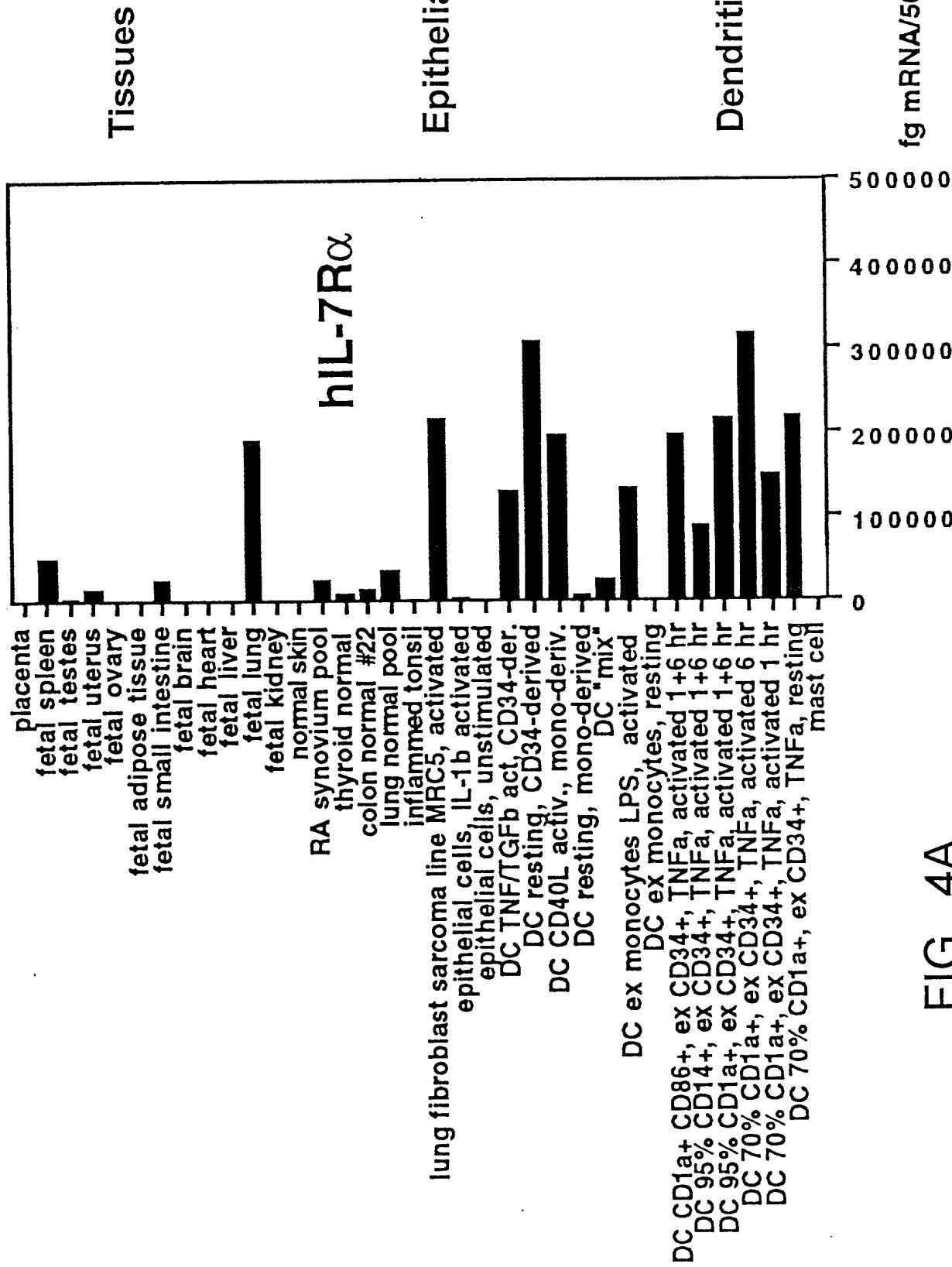


FIG. 4A

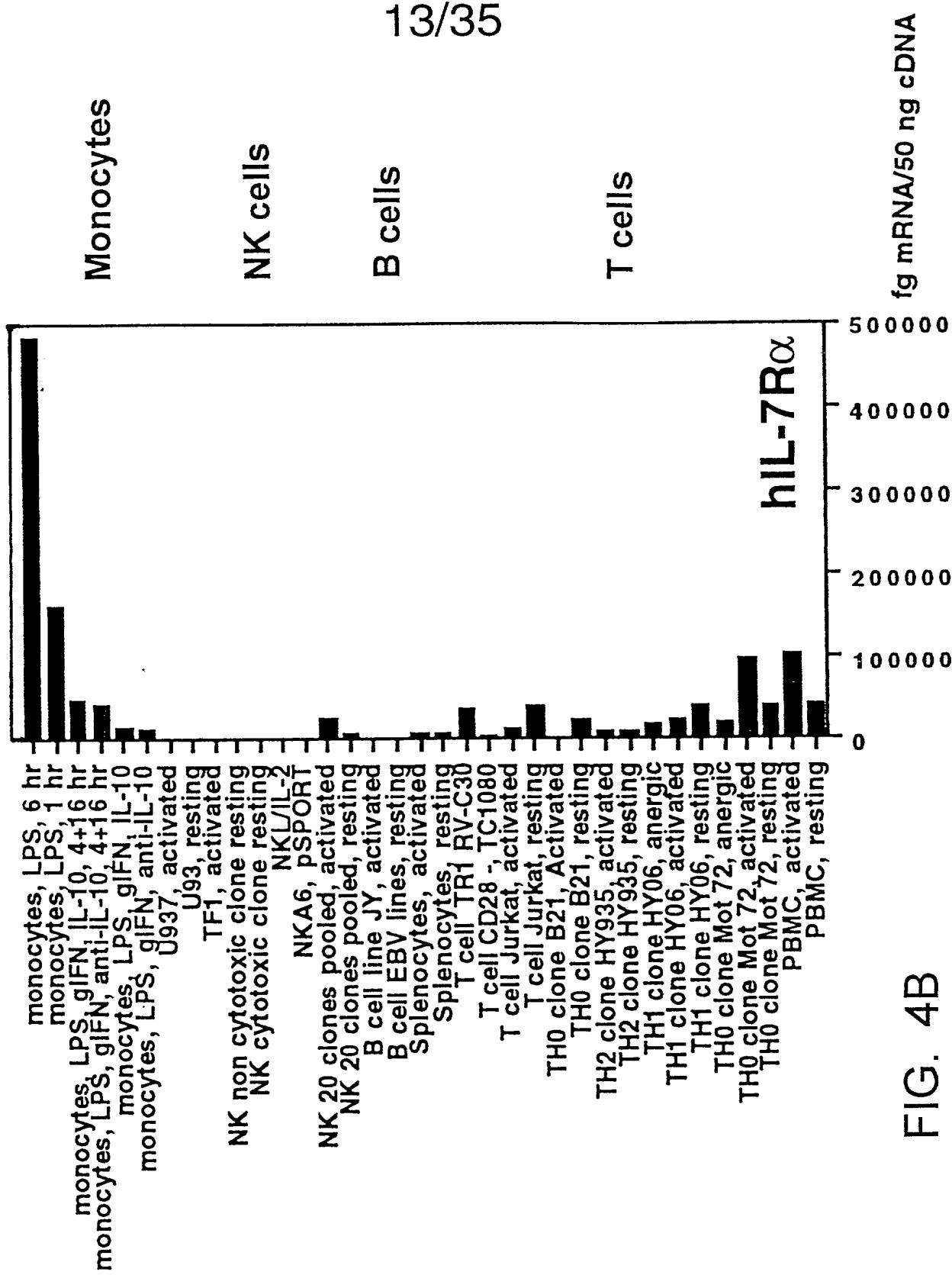


FIG. 4B

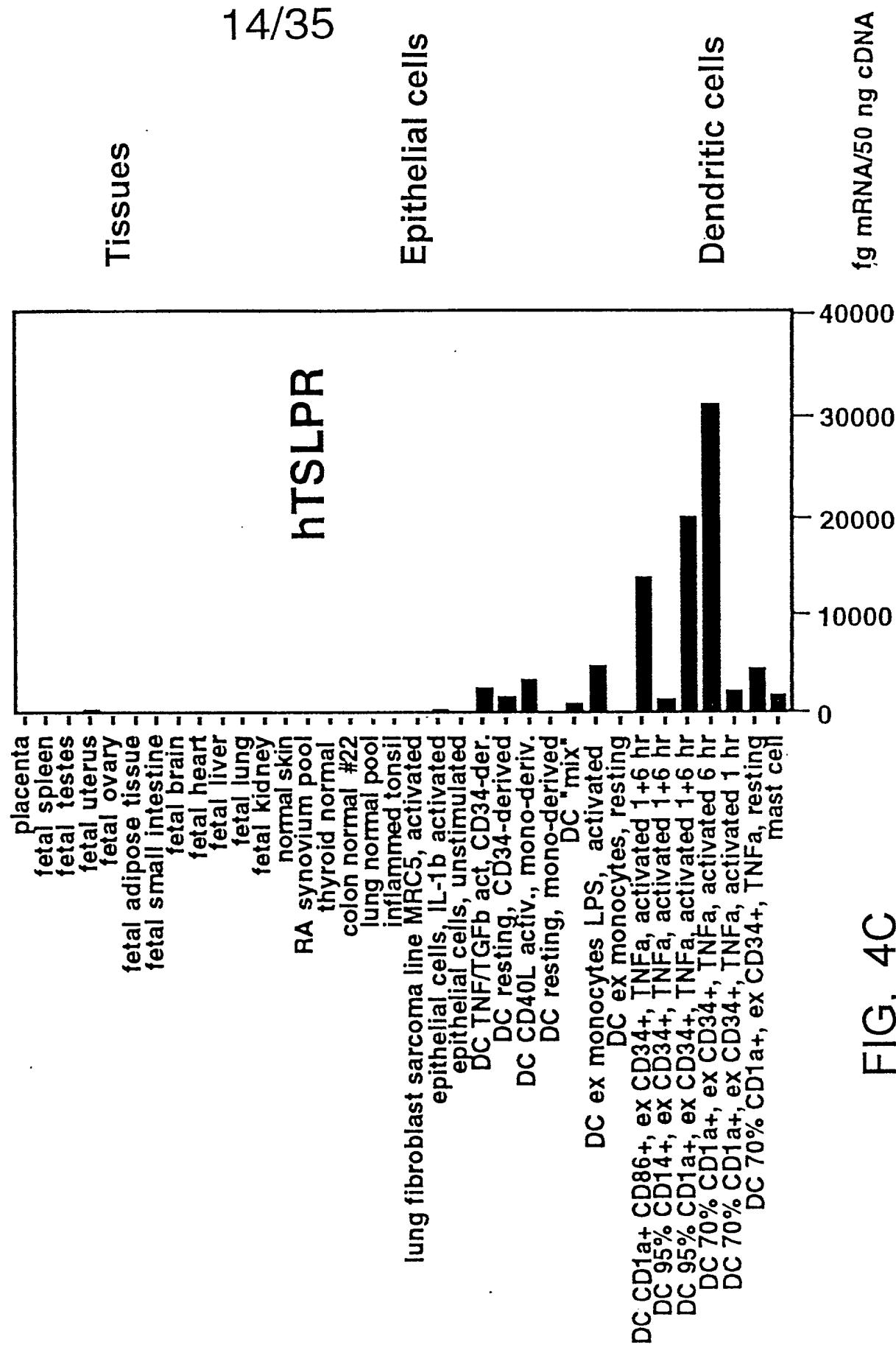


FIG. 4C

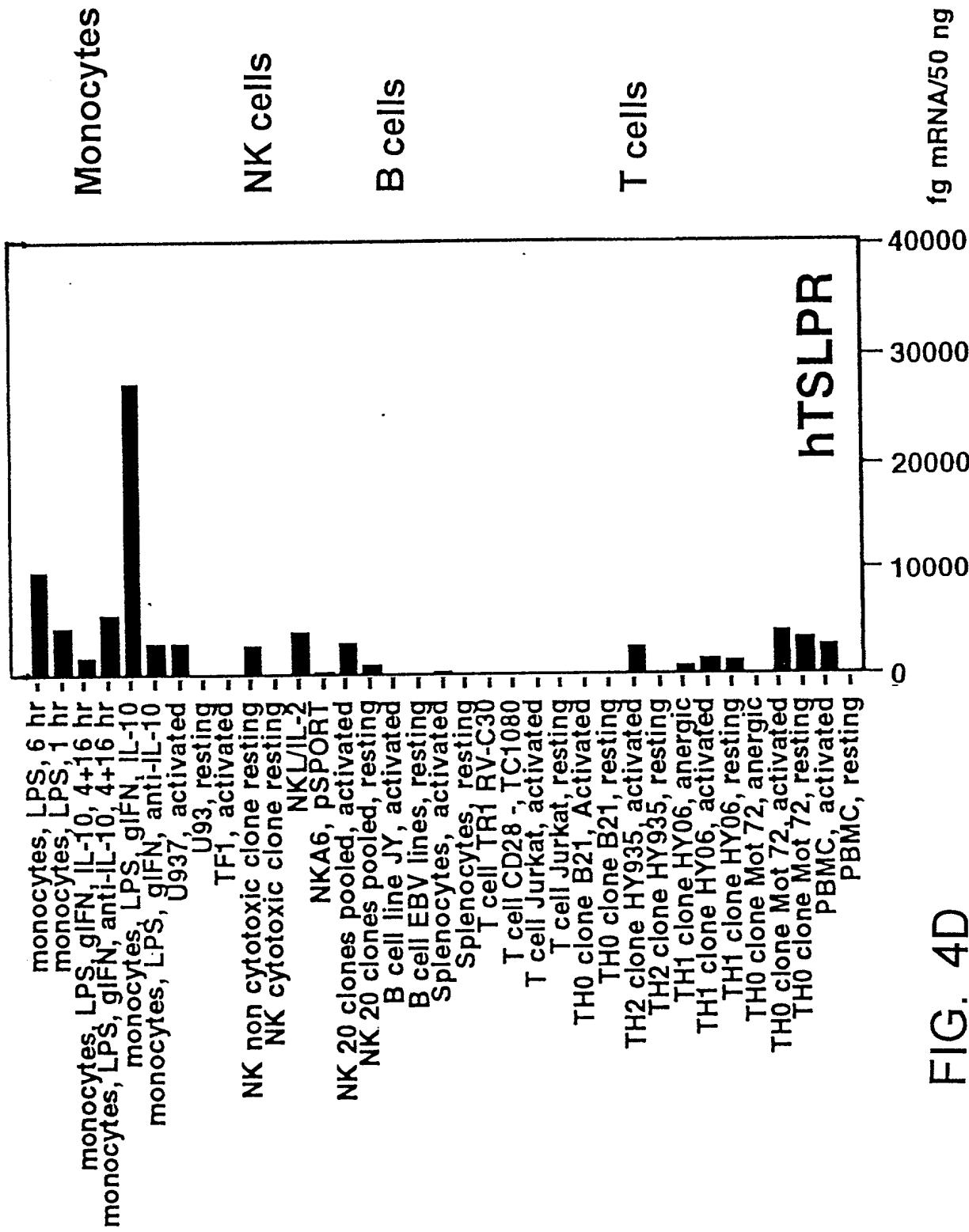


FIG. 4D

IL50 mRNA (fg/50ng)

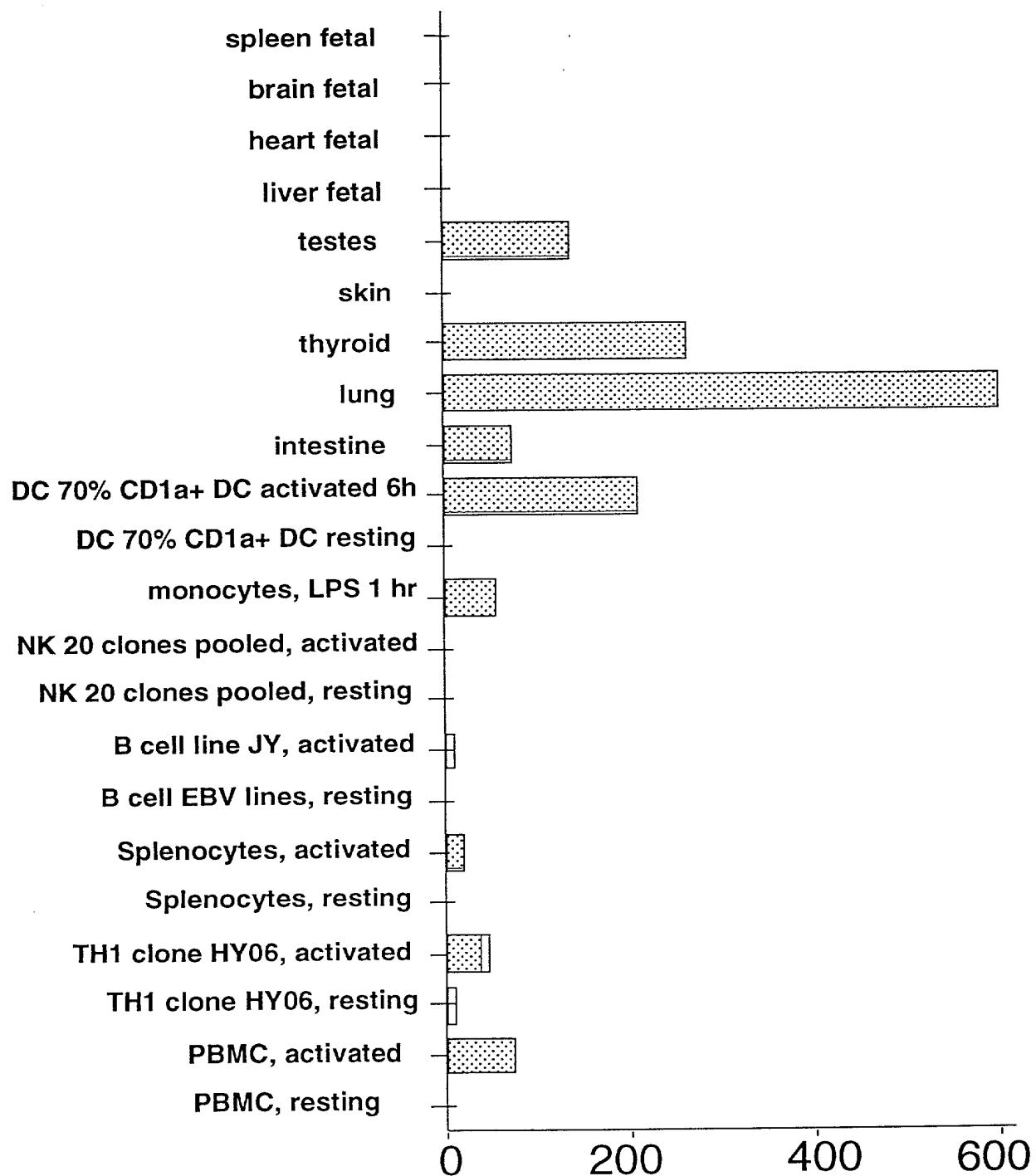


FIG. 4E

17/35

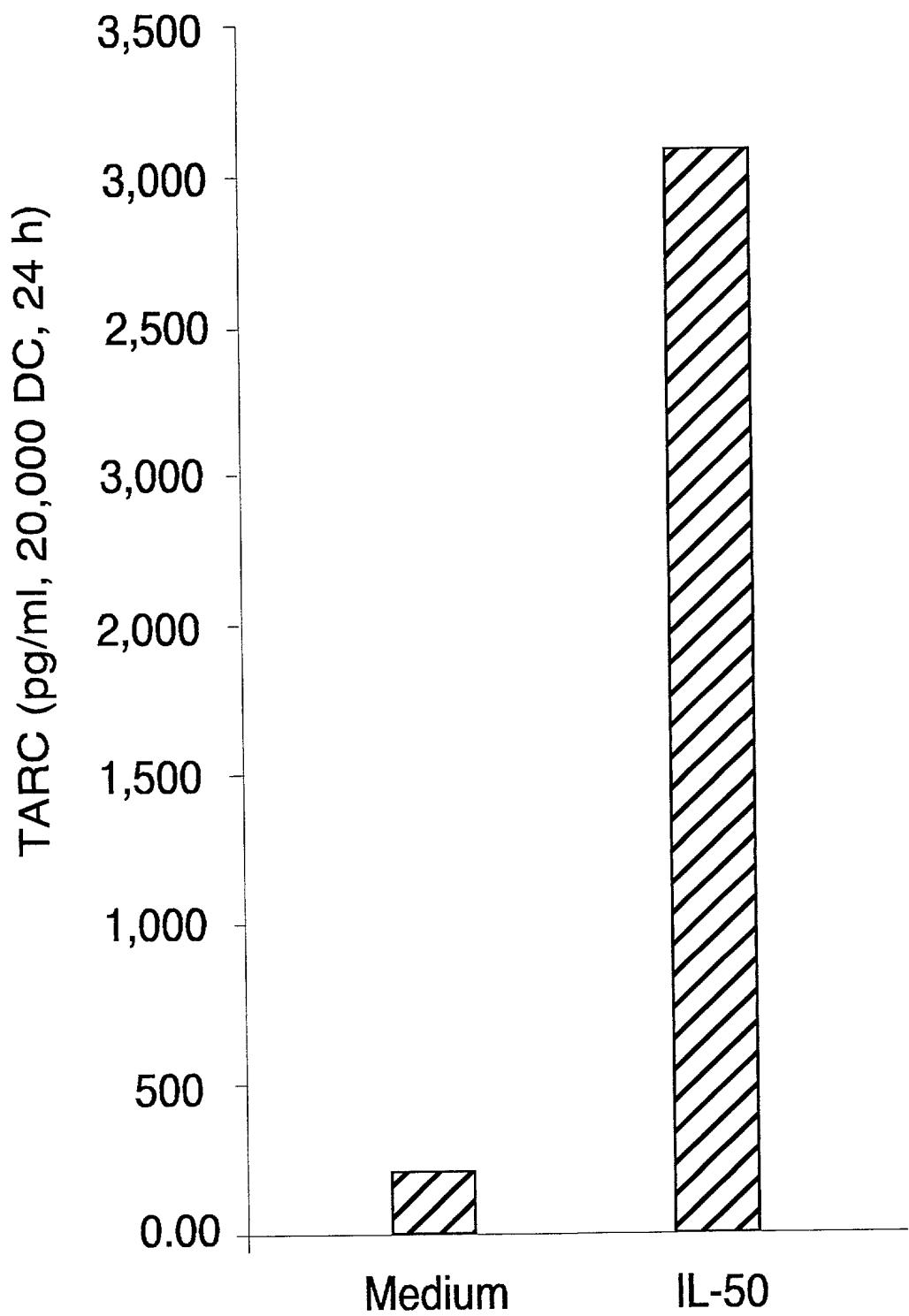


FIG. 5

18/35

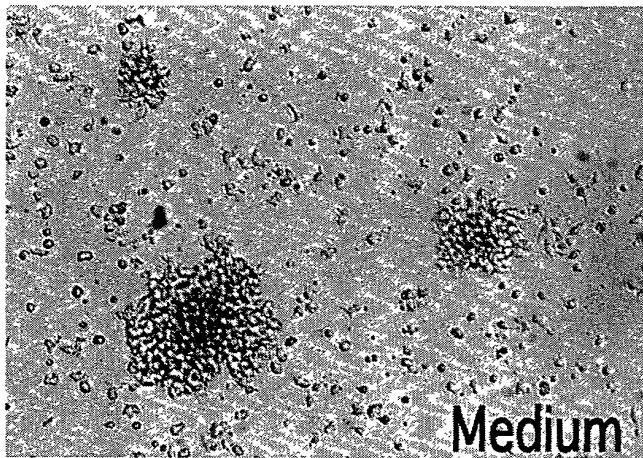


FIG. 6A

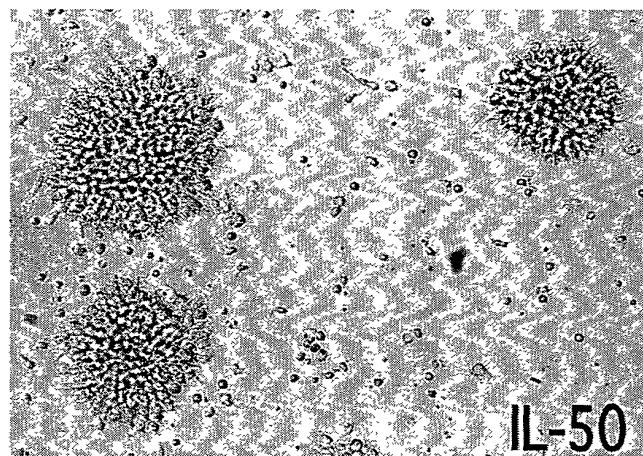


FIG. 6B

Medium IL-50

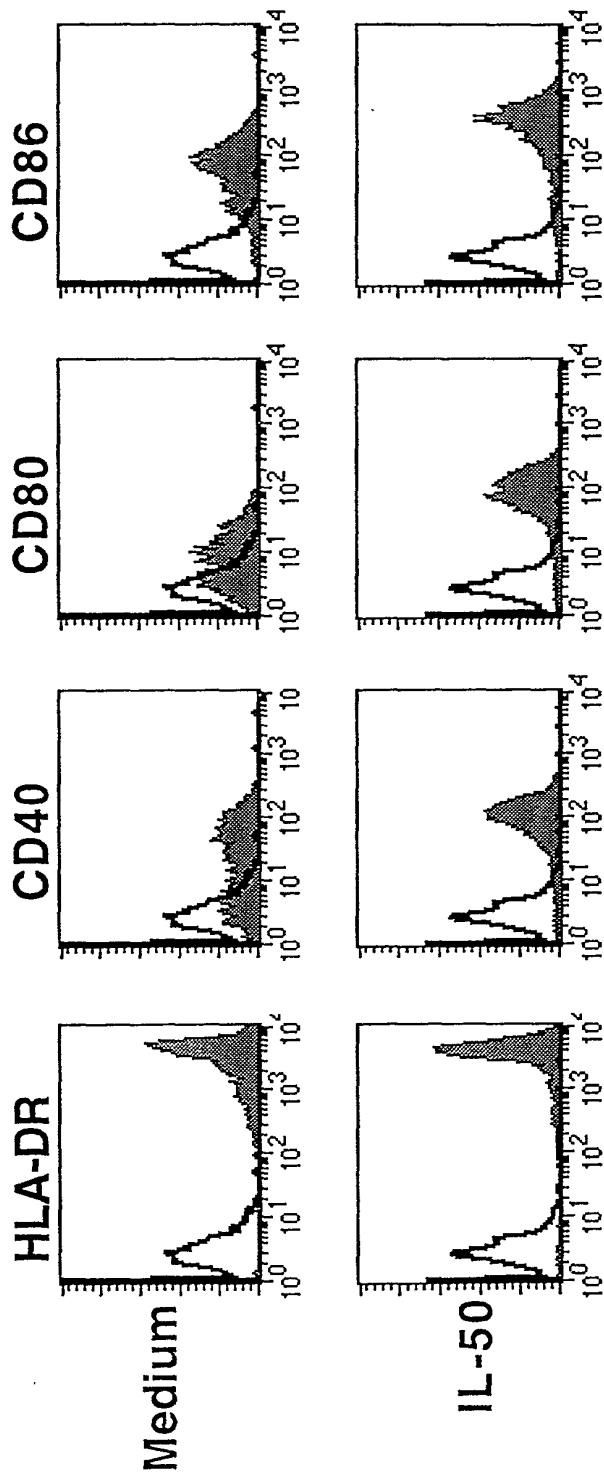


FIG. 7

20/35

IL-50 IL-12 IL-15 IL-18 GM-CSF TGF- β

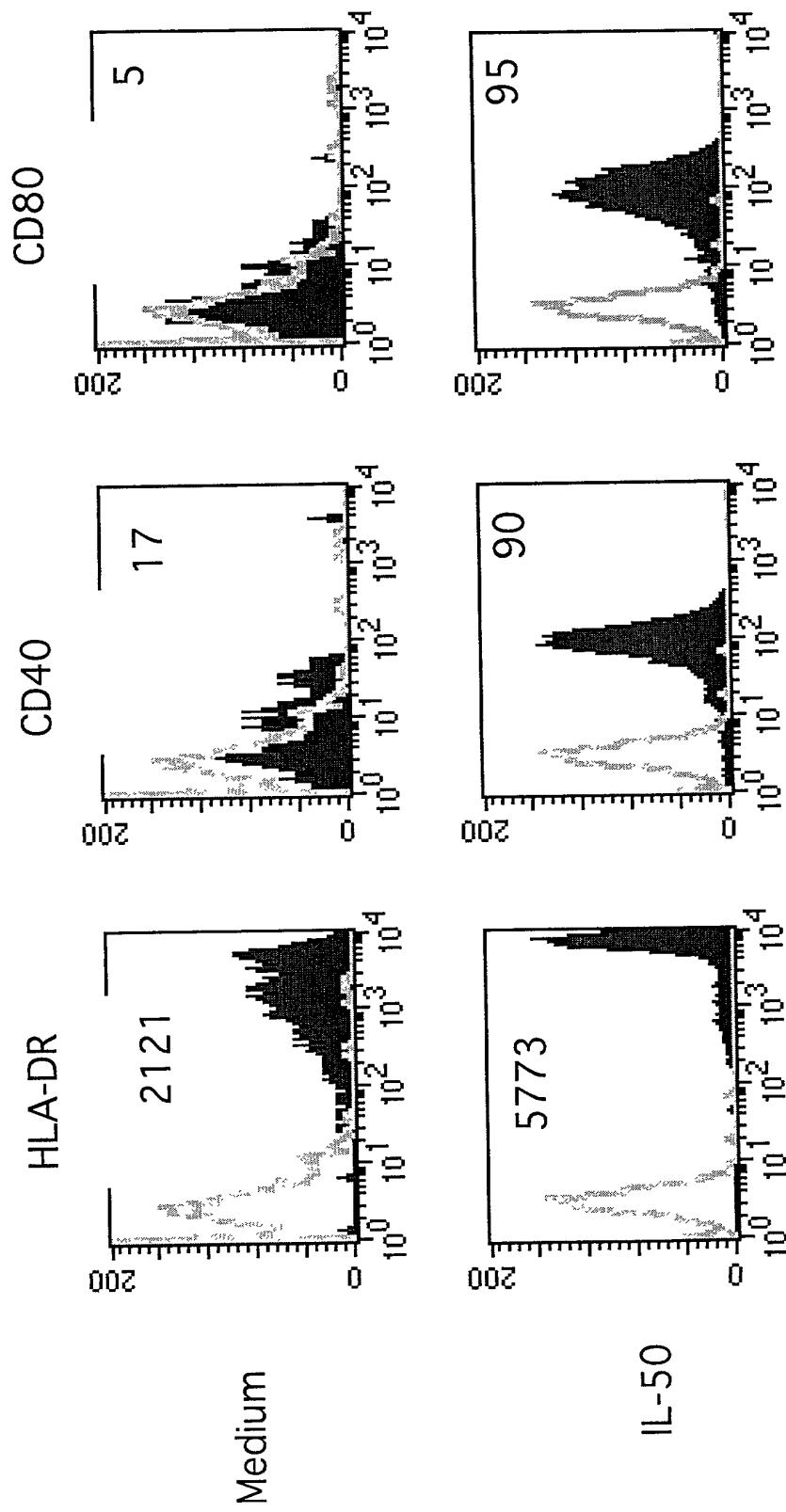


FIG. 8A

21/35

CD80
CD40
HLA-DR
CD40L
IL-7

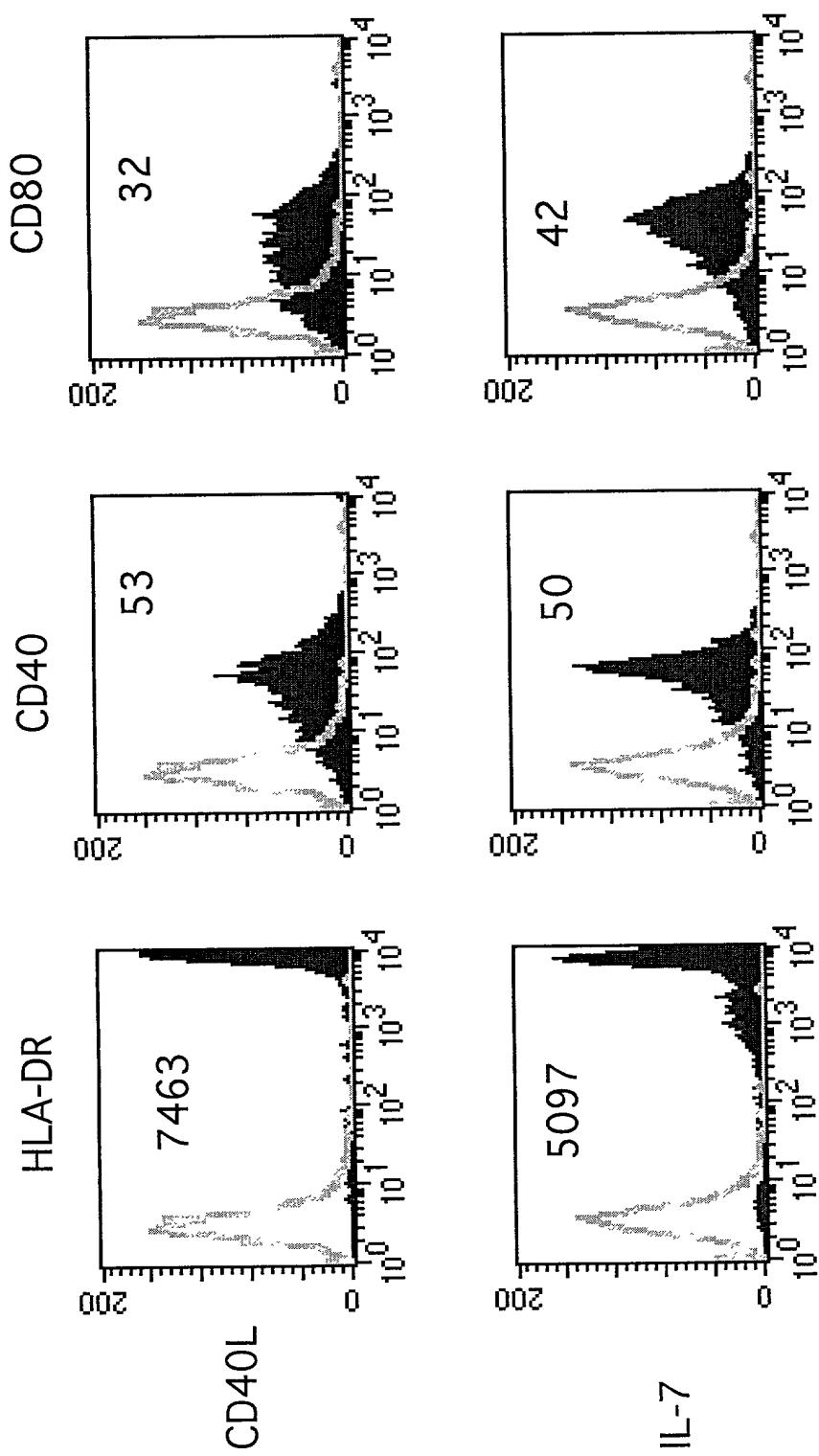


FIG. 8B

22/35

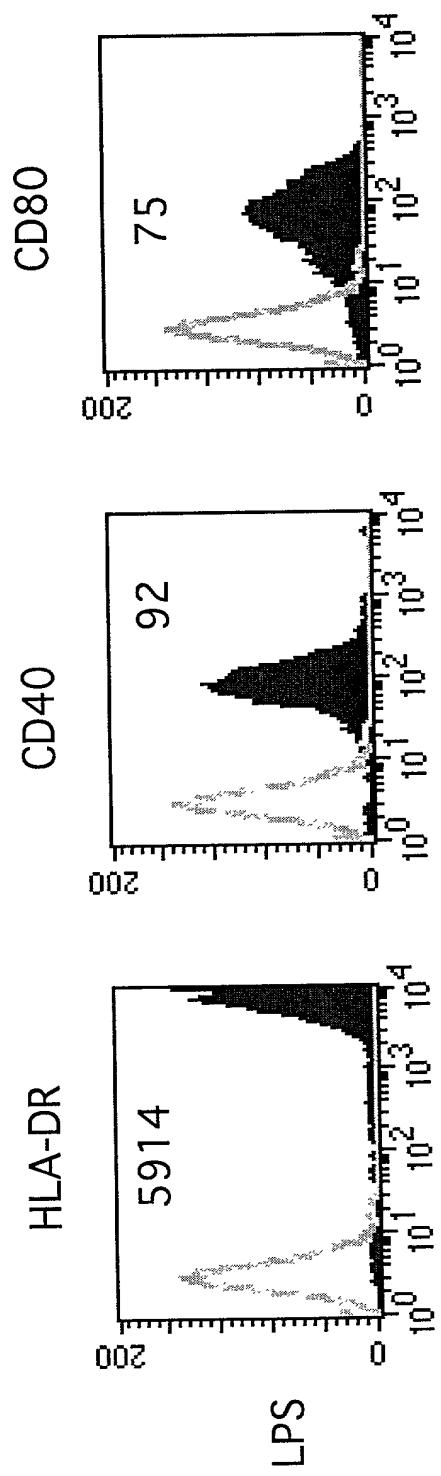
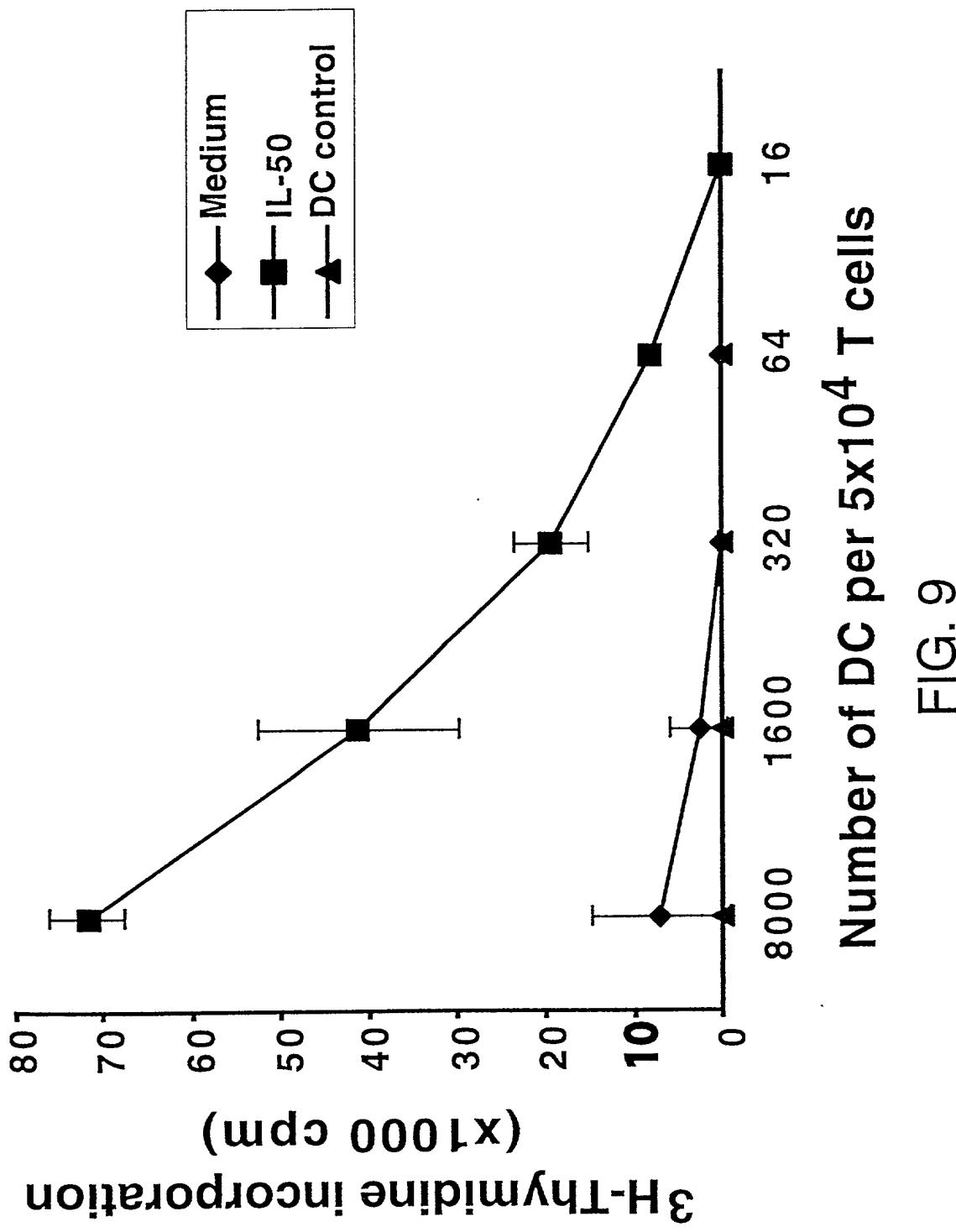


FIG. 8C



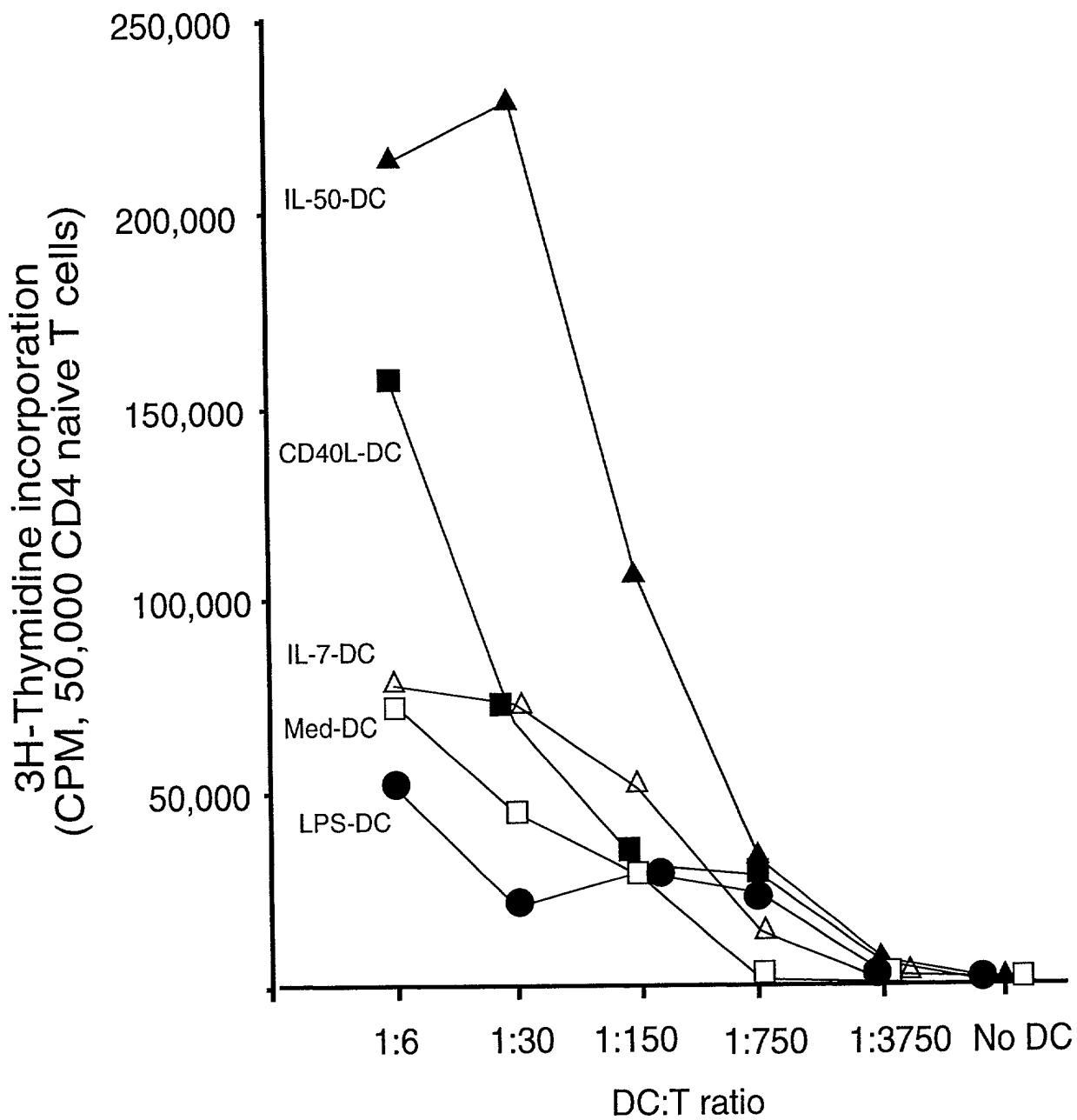


FIG. 10

25/35

IL-4

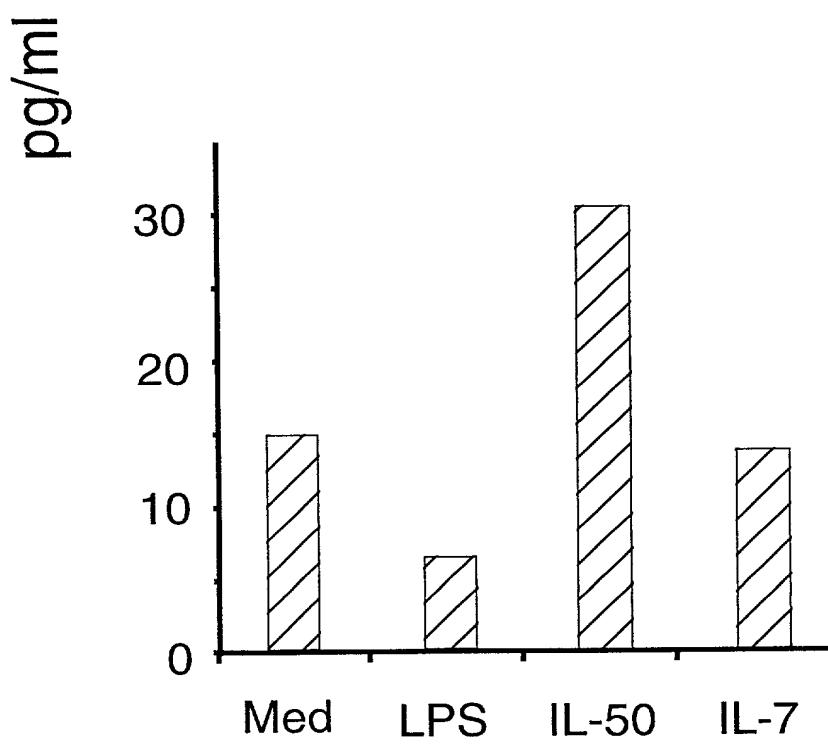
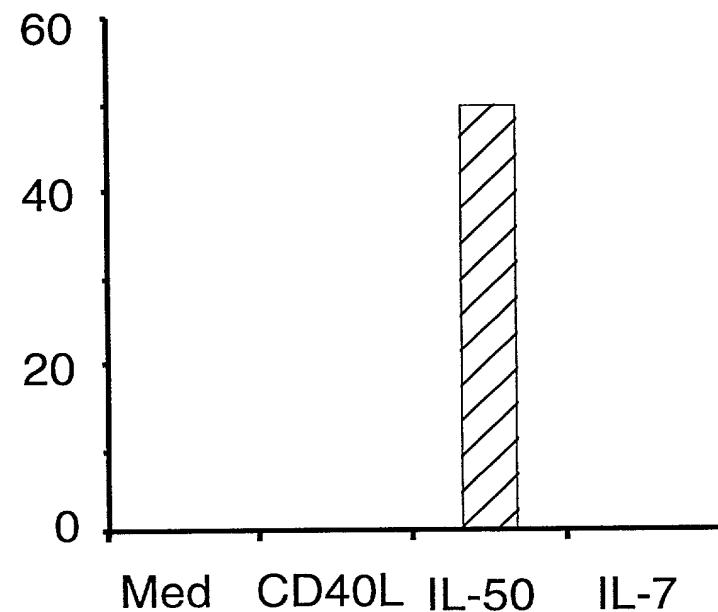


FIG. 11A

26/35

IL-13

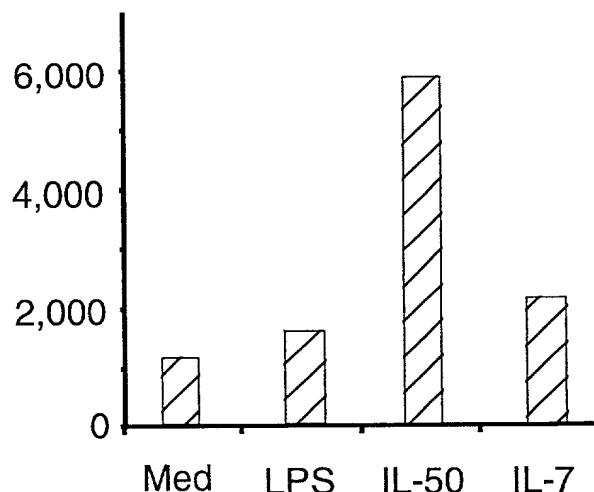
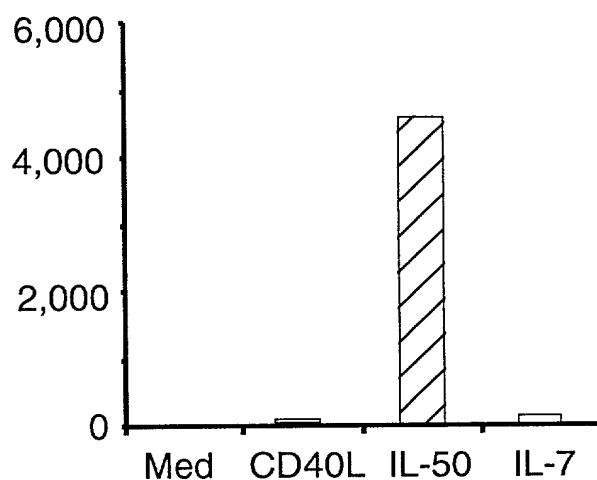
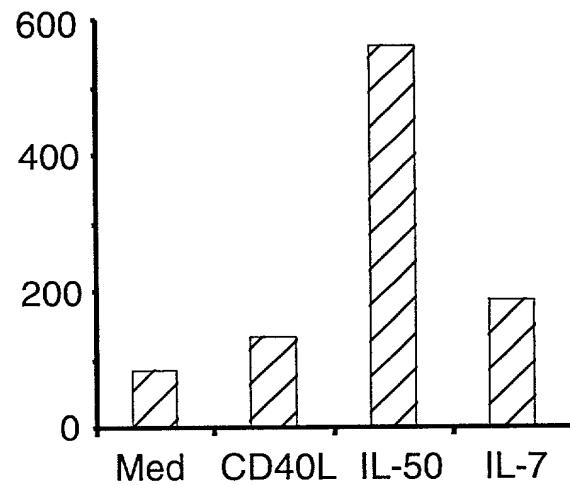


FIG. 11B

27/35

IFN- γ

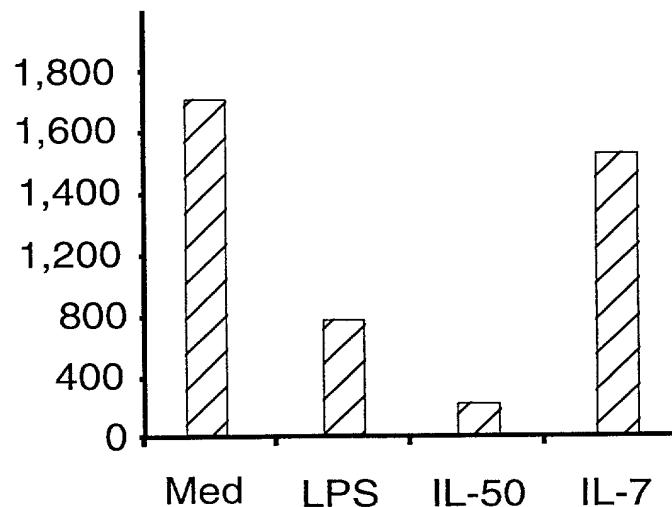
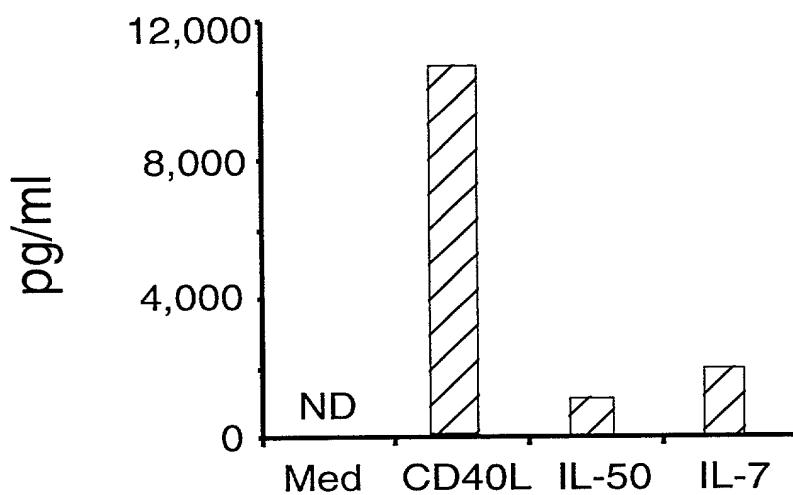
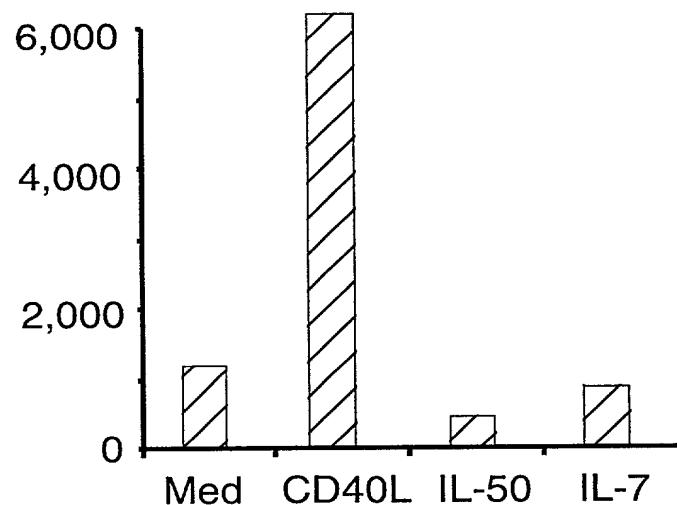


FIG. 11C

28/35

IL-10

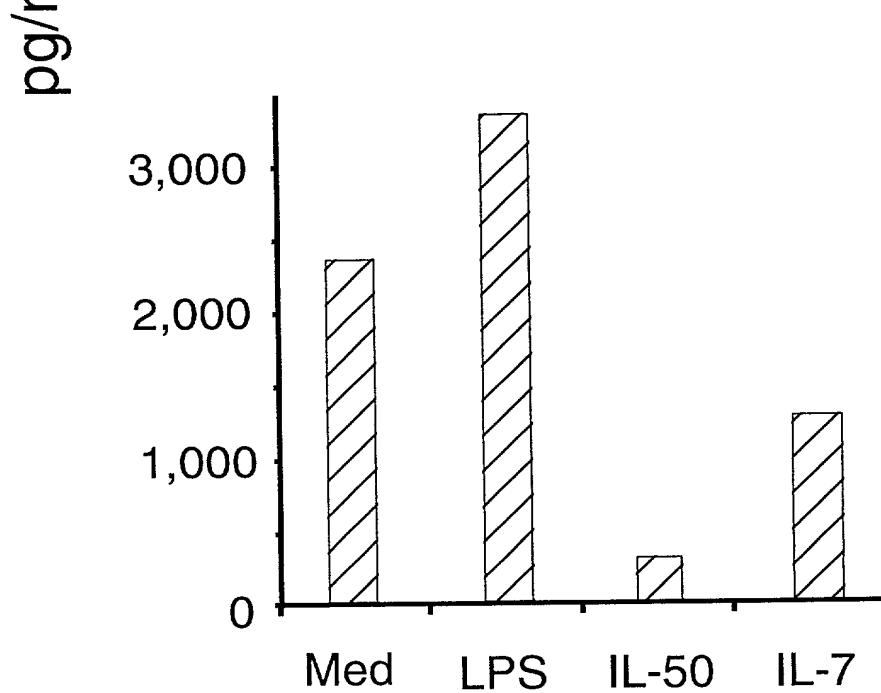
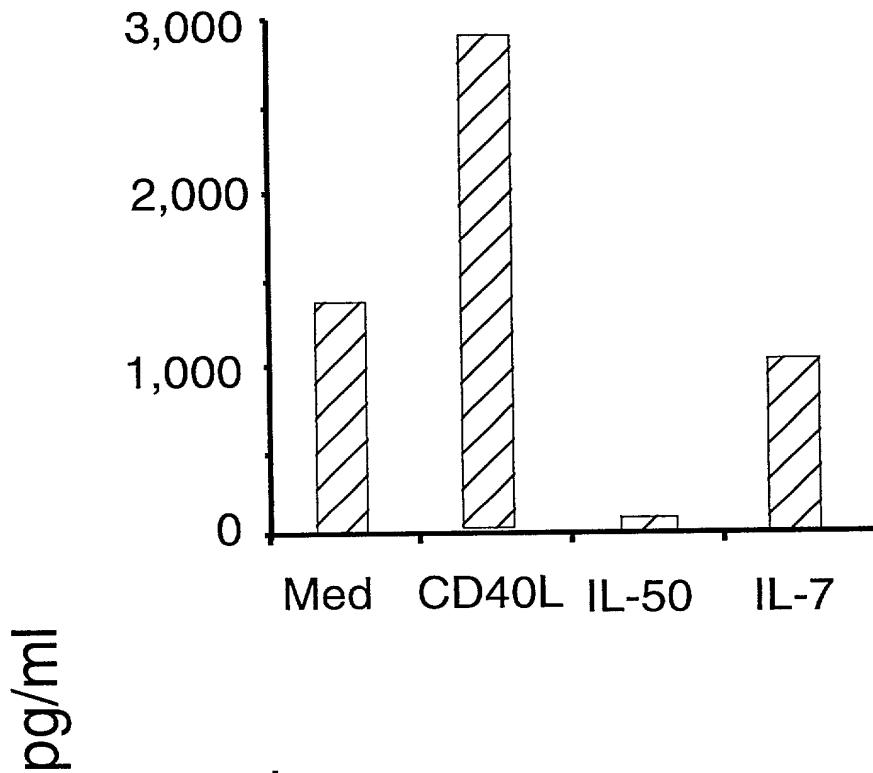


FIG. 11D

29/35

TNF- α

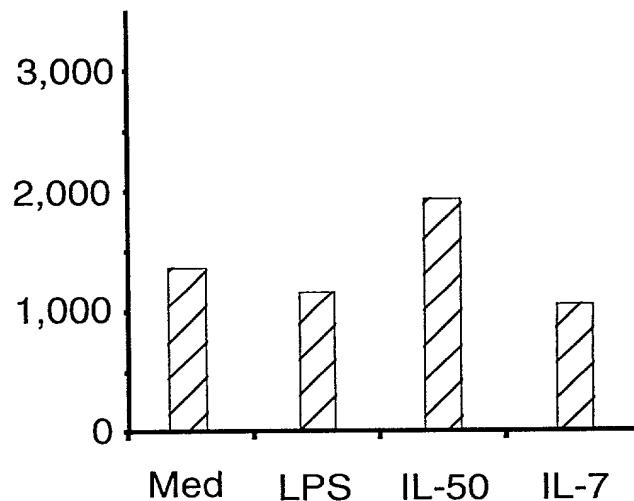
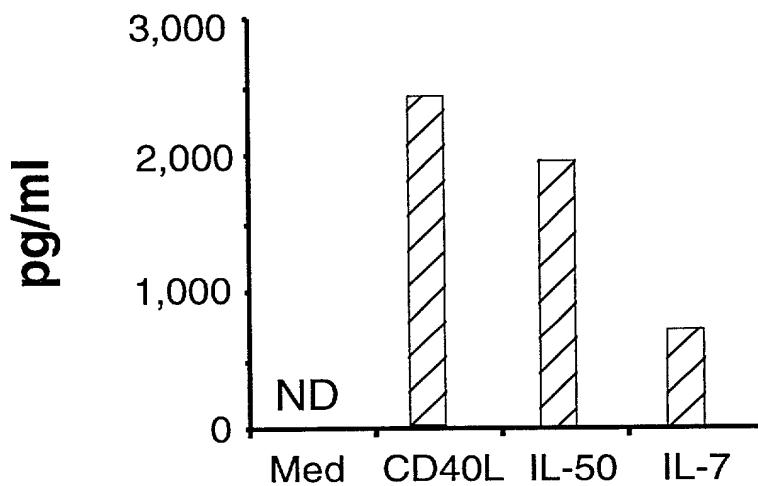
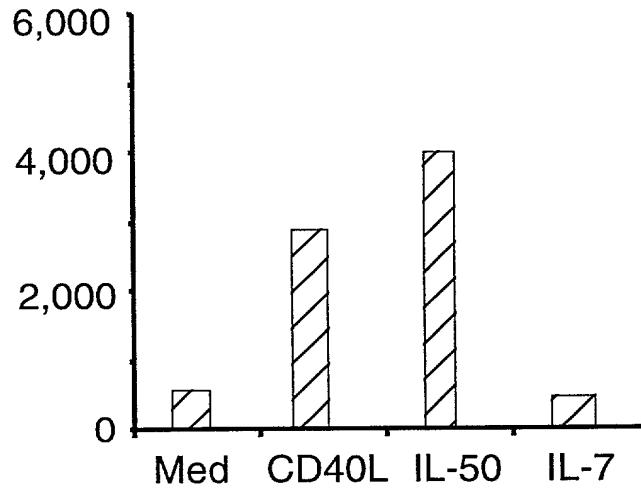


FIG. 11E

30/35

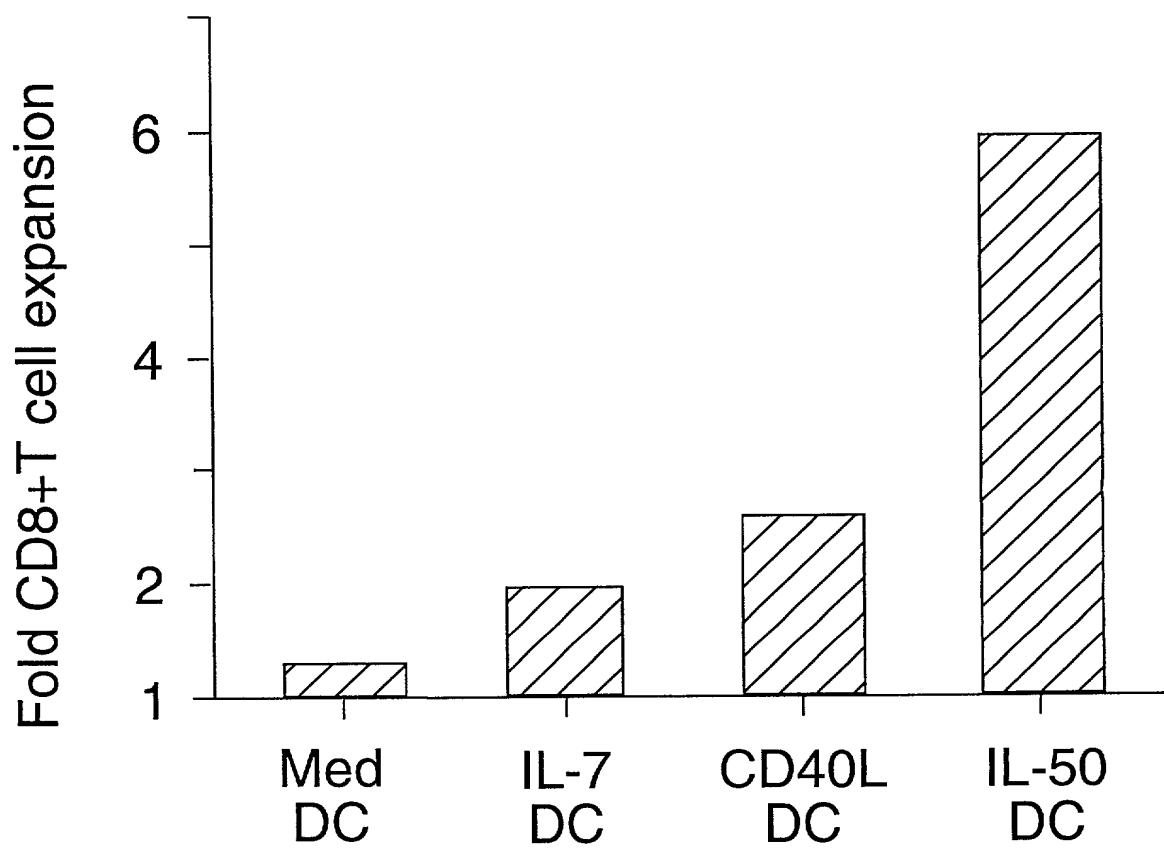


FIG. 12

31/35

CD8⁺ T cells
CD8⁺ CD45RA⁺ CD45RO⁻

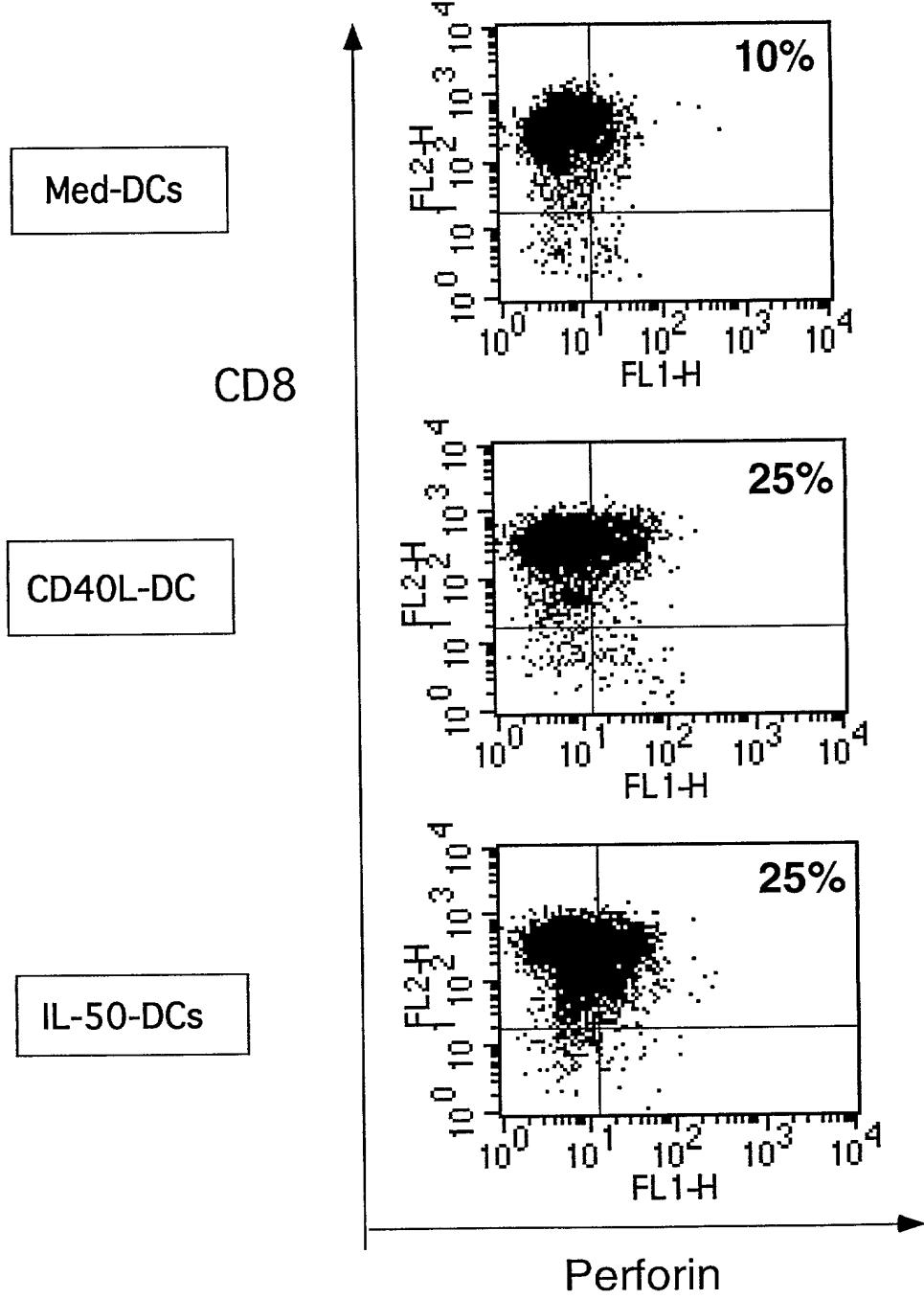


FIG. 13

32/35

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35

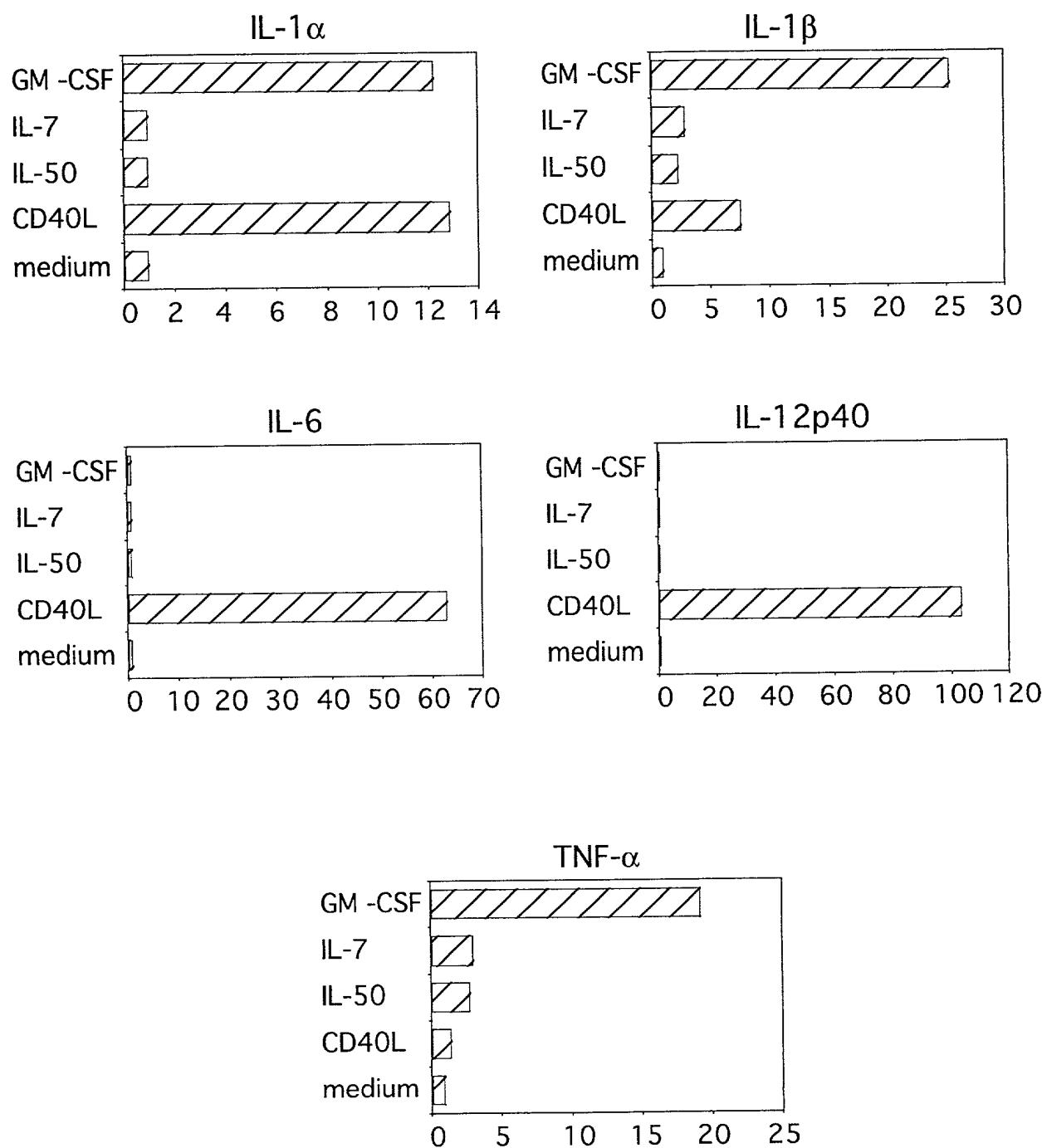
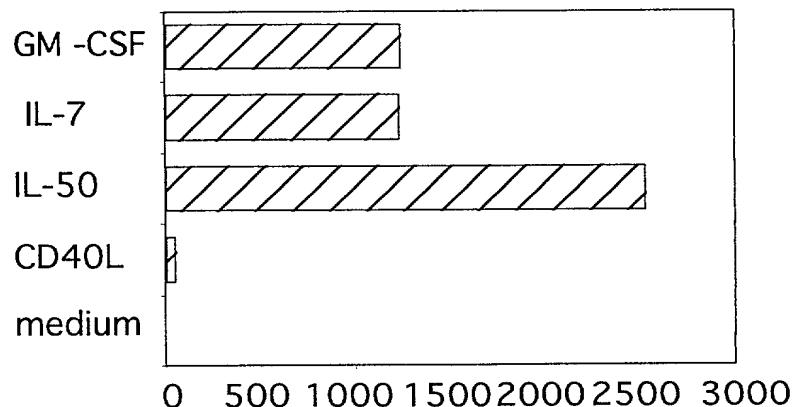


FIG.14A

33/35

Th2

TARC



MDC

DC+Naive

MIP3-beta

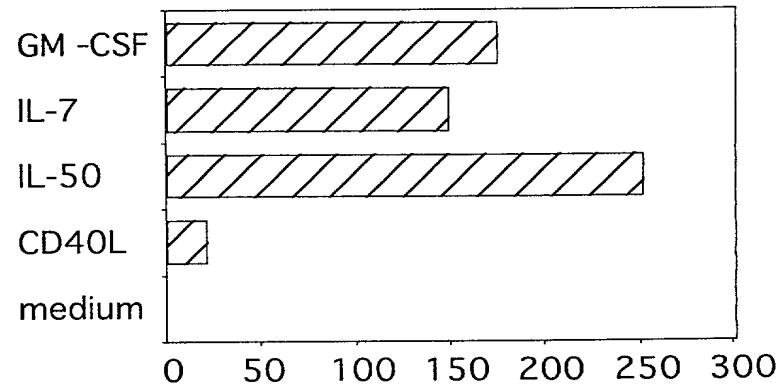
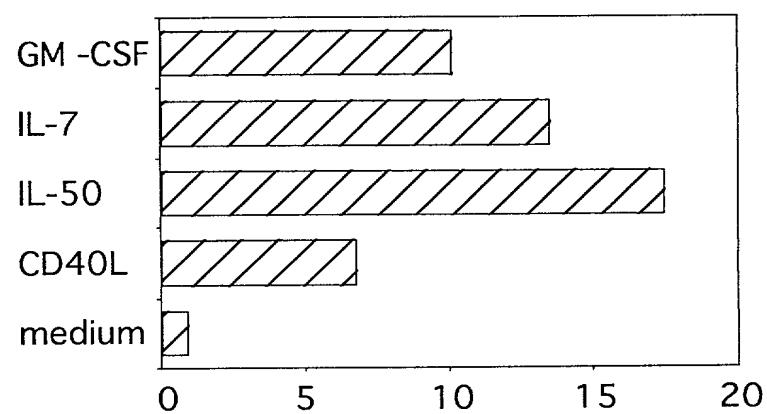
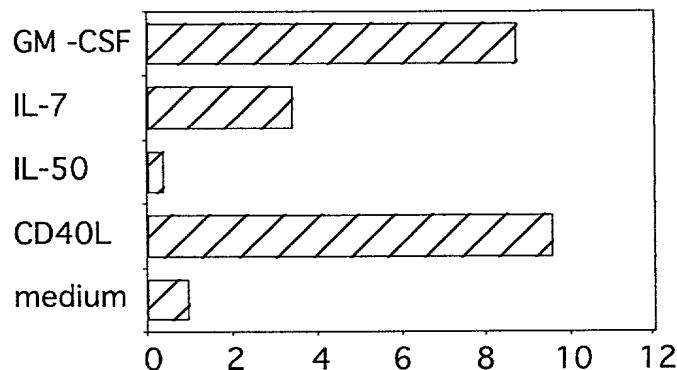


FIG. 14B

34/35

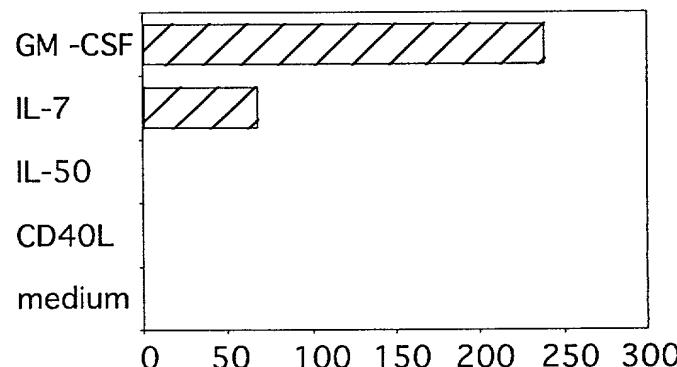
Th2+Th1

MCP-1



MCP-4

RANTES



Th1

MIG

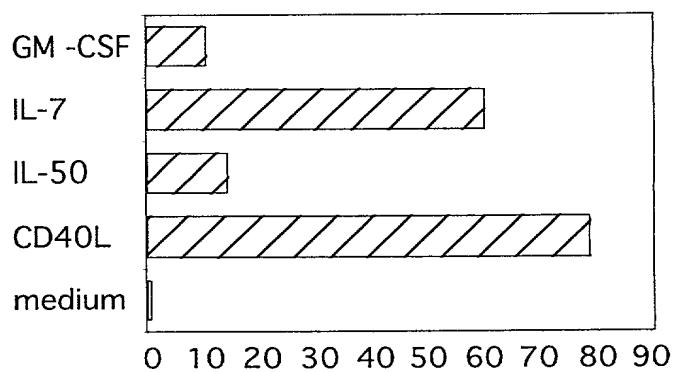


FIG. 14C

35/35

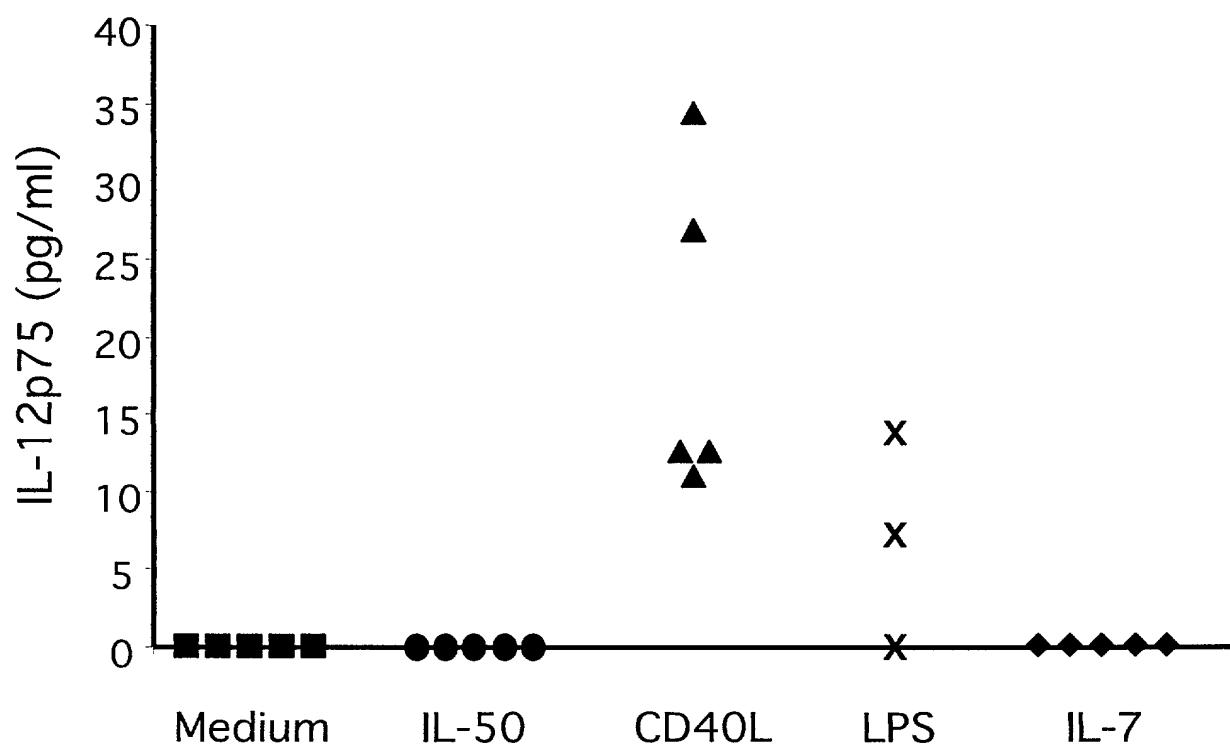


FIG. 15